STATIONARY BOARD FOR BLOCKING LIGHTS OF ONCOMING VEHICLES IN MEDIAL STRIP AND FACILITATING NIGHTTIME IDENTIFICATION OF MEDIAL STRIP

CROSS-REFERENCE TO RELATED APPLICATIONS

This application is based upon and claims the benefit of priority from the prior Japanese Patent Application No. 2003-90078, filed on March 28, 2003, the entire contents of which are incorporated herein by reference.

FIELD OF THE INVENTION

The present invention relates to a stationary board to be set up in a medial strip at given intervals in multilane divided highways or ordinary roads. In particular, the present invention relates to a stationary board capable of blocking lights of oncoming vehicles and effective to facilitate identification of the presence of a medial strip between traffic lanes in nighttime driving.

BACKGROUND OF THE INVENTION

It is often the case that during driving a motor vehicle such as automobile or motorcycle in the lane facing oncoming traffic, the lights of oncoming vehicles can dazzle a driver or rider and negatively influence his/her driving or riding at nighttime. In view of this risk, various types of barriers are set up in a medial strip of a highway.

The conventional barriers are originally intended to provide only a light-blocking function or a limited function, and their appearances are far from satisfactory.

SUMMARY OF THE INVENTION

It is therefore an object of the present invention to provide a stationary board

for a medial strip between traffic lanes, capable of bringing out a function of facilitating identification of the medial strip in nighttime driving or riding in addition to blocking lights of oncoming vehicles, while offering excellent aesthetic appearance.

In order to achieve the above object, the present invention provides a stationary board adapted to be set up in a medial strip between traffic lanes to block lights of oncoming vehicles in the medial strip and facilitate identification of the medial strip in nighttime driving or riding. This stationary board comprises a pair of plate members each composed of a molded component made of a transparent plastic material, and the plate members are coupled with one another at the respective marginal edges thereof to form an integrated assembly having a hollow space therein. Each of the plate members is formed with irregularities in its inner surface facing the hollow space of the assembly, and at least the marginal region of the inner surface has a coat layer of a luminous material thereon.

In one embodiment of the present invention, each of the plate members has a central region and a peripheral region on the outside of the central region. The central region has a flat shape, and the inner surface of the central region is formed as a rough surface with fine irregularities. The peripheral region has an arc shape in horizontal section, and the inner surface of the peripheral region is formed with a number of pyramid-shaped protrusions in its entirely. The fine irregularities and the protrusions serve as the aforementioned irregularities.

In one typical embodiment of the present invention, the stationary board has a height of 600 to 700 mm and a width of 400 to 450 mm. In use, the stationary board is set up in the medial strip through a column support in such manner that it is located at a height of 1400 to 1500 mm. The distance between the adjacent stationary boards may be set in the range of 2 to 5m. While the plastic material constituting the plate members is preferably acrylic or polycarbonate, any other suitable transparent plastic material may also be used. The plastic material may be colorless or colored.

When set up in the medial strip at given intervals, the stationary board of the present invention is operative to scatter the lights of vehicles in the opposite lane at nighttime by the irregularities formed in the inner surfaces of the plate members constituting the stationary board. Thus, a driver or rider can drive a motor vehicle without dazzle or negative influence from the lights of oncoming vehicles, which improves safety in driving. In addition, the coat layer of a luminous material formed on at least the marginal regions of the inner surfaces of the plate members allows the marginal portion of the stationary board to emit light at nighttime so as to help identify the position of the medial strip. As compared to a case where the coat layer of a luminous material is formed over an extended range, for example, in the entire inner surfaces of the plate members, the coat layer of a luminous material formed on only the marginal regions of the inner surfaces provides reduced brightness or luminance of the stationary board to prevent the stationary board from emitting excessive or dazzling light. While it is desirable to form the coat layer of a luminous material on only the marginal regions for the above reason, the present invention is not limited thereto.

Preferably, the stationary board is arranged such that the central plane of the plate assembly has an inclination in the range of 10° to 20° relative to a position perpendicular to the longitudinal direction of the medial strip. This arrangement can reduce wind pressure to be applied to the stationary board during passing of motor vehicles. The central plane may be inclined in either of rightward and leftward directions to obtain the same effect.

Other features and advantages of the present invention will be apparent from the accompanying drawings and from the detailed description.

BRIEF DESCRIPTION OF THE DRAWINGS

FIG. 1 is a perspective view showing a stationary board according to one embodiment of the present invention, wherein a plural number of the stationary boards are set up along a medial strip between traffic lanes.

FIG. 2 is a front exterior view showing the stationary board in FIG. 1.

FIG. 3 is an enlarged front view showing a plate assembly of the stationary board in FIG. 2.

FIGS. 4(a) and 4(b) are sectional views showing the detailed structure of the stationary board, wherein FIG. 4(a) is a sectional view taken along the line A-A in FIG. 3, and FIG. 4(b) is an enlarged sectional view showing a coupling structure at the marginal edge of the plate assembly.

FIG. 5 is an enlarged sectional view taken along the line B-B in FIG. 3, which shows irregularities and a coat layer of a luminous material in the marginal region of the plate assembly.

FIG. 6 is an enlarged view showing irregularities formed in the peripheral region of the inner surface of the plate assembly.

FIG. 7 is a bottom view of the stationary board, wherein a column support is partially cut out.

DESCRIPTION OF THE PREFERRED EMBODIMENT

With reference to accompanying drawings, one embodiment of the present invention will now be described.

FIG. 1 shows a stationary board 1 according to one embodiment of the present invention, wherein a plural number of the stationary boards 1 are set up along a medial strip 2 between traffic lanes at given intervals, for example, of 5 to 7 m. The stationary board 1 is set up in the medial strip 2 in such manner that the plane of the stationary board 1 is located approximately perpendicular to the longitudinal direction of the medial strip 2.

FIG. 2 is a front exterior view showing the stationary board 1. The stationary board 1 comprises a plate assembly 3 and a column support 4. As shown in FIG. 4(a) which is a sectional view taken along the line A-A in FIG. 3, the plate assembly 3 includes a pair of plate members 5, 6. Each of the plate members 5, 6 is molded with a transparent plastic material, such as acrylic or

polycarbonate. As shown in FIGS. 3 and FIG. 4(a), each of the plate members 5, 6 has a central region 7 having an approximately flat shape, a peripheral region 8 surrounding the central region 7, and a marginal region 9. The peripheral region 8 has an arc shape in horizontal section as shown in FIG. 4(a). The pair of plate members 5, 6 are coupled with each other at the edge of the marginal region 9 to form the assembly having a hollow space 10 therein. As shown at the left end of FIG. 4 (a) and in FIG. 4(b), the edge of the marginal region 9 of the plate member 5 is formed with a boss 11 having a screw-insertion hole 13, and the edge of the marginal region 9 of the plate member 6 is formed with a screw-receiving portion 12 at a position opposed to the boss 11. The two plate members 5, 6 are coupled together by driving a setscrew 14 into the screw-receiving portion 12 of the plate member 6 through the hole 13 formed in the boss 11 of the plate member 5. A plural number of the setscrew 14 are attached to the plate assembly along the marginal region 9 at appropriate intervals as shown in FIG. 3.

Referring to FIGS. 3 to 5, in each of the plate members 5, 6, a plurality of grooves 15 and protruded lines 16 are formed alternately in the inner surface of the entire marginal region 9 facing the hollow space to provide irregularities therein. Further, a coat layer 17 of a luminous martial is formed on the entire surface having the grooves 15 and the protruded lines 16. In each of the plate members 5, 6, the inner surface of the flat-shaped central region 7 is formed as a rough surface with fine irregularities as seen in FIG. 4(a), and the inner surface of the peripheral region 8 is formed with a plurality of protrusions 18 each having a six-sided pyramid shape as shown in FIG. 6 which is a fragmentary enlarged view of the inner surface of the peripheral region 8. In FIG. 6, one six-sided pyramid-shaped protrusion 18 is shown by a thick line. In FIG. 4(a), the reference symbol S indicates the central plane of the plate assembly 3.

FIG. 7 is a bottom view of the stationary board, wherein the column support 4 is partially cut out. The column support is also formed in a hollow structure of a plastic martial. It is not essential to provide transparency in the column

support.

In the medial strip 2 having a plural number of the above stationary boards 1 set up therealong at given intervals, for example, of 5 to 7 m, as shown in Fig. 1, the light from a vehicle in the opposite lane at night is incident on the surface of the plate assembly 3 of the stationary board 1. Then, the incident light is scattered by the irregularities formed in the inner surface of the central region 7 and the six-sided pyramid-shaped protrusions 18 formed in the inner surface of the peripheral region in each of the plate members 5, 6. This scattering effect prevents the light of the oncoming vehicle from dazzling or negatively influencing a driver or rider in a lane facing the light. In addition, the coat layer 17 of a luminous material formed on the inner surface of the marginal region 9 in each of the plate members accumulates energy of exciting lights from outside to allow the marginal portion of the stationary board to emit light in dark condition so as to help identify the position of the medial strip.

Preferably, the plate assembly 3 of the stationary board 1 is designed to have a height of 600 to 700 mm and a width of 400 to 450 mm, and is set up in the medial strip through the column support 4 at a total height of 1400 to 1500 mm.

Referring to FIG. 1, the line A indicates a direction perpendicular to the longitudinal direction of the medial strip 2, and the line B indicated a projector of the plane of the plate members serving as a principal component of the stationary board 1. As seen in FIG. 1, the stationary board 1 is preferably arranged such that the central plane P of the plate assembly 3 has a given inclination θ relative to the perpendicular direction A. Preferably, the inclination θ is set in the range of 10° to 20°.

An advantageous embodiment of the present invention has been shown and described. It is obvious to those skilled in the art that various changes and modifications may be made therein without departing from the spirit and scope thereof as set forth in appended claims.